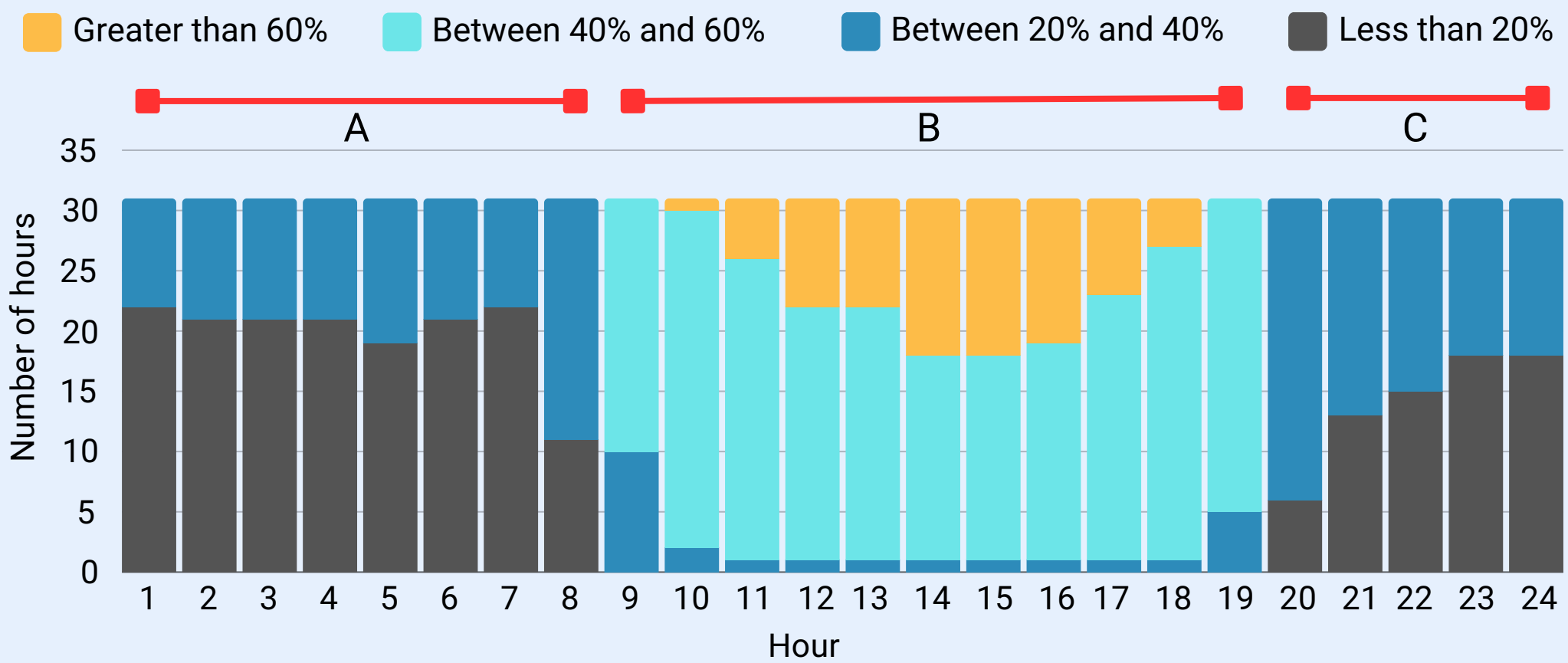
# The hourly participation of solar + wind technologies in the National Electric System (NES) during October exceeded 60% in 74 hours of the month.

With the highest hourly participation recorded at 68.5% on Saturday, the 14th, at 3:00 PM. Additionally, the average monthly participation of these technologies was 34.7%.

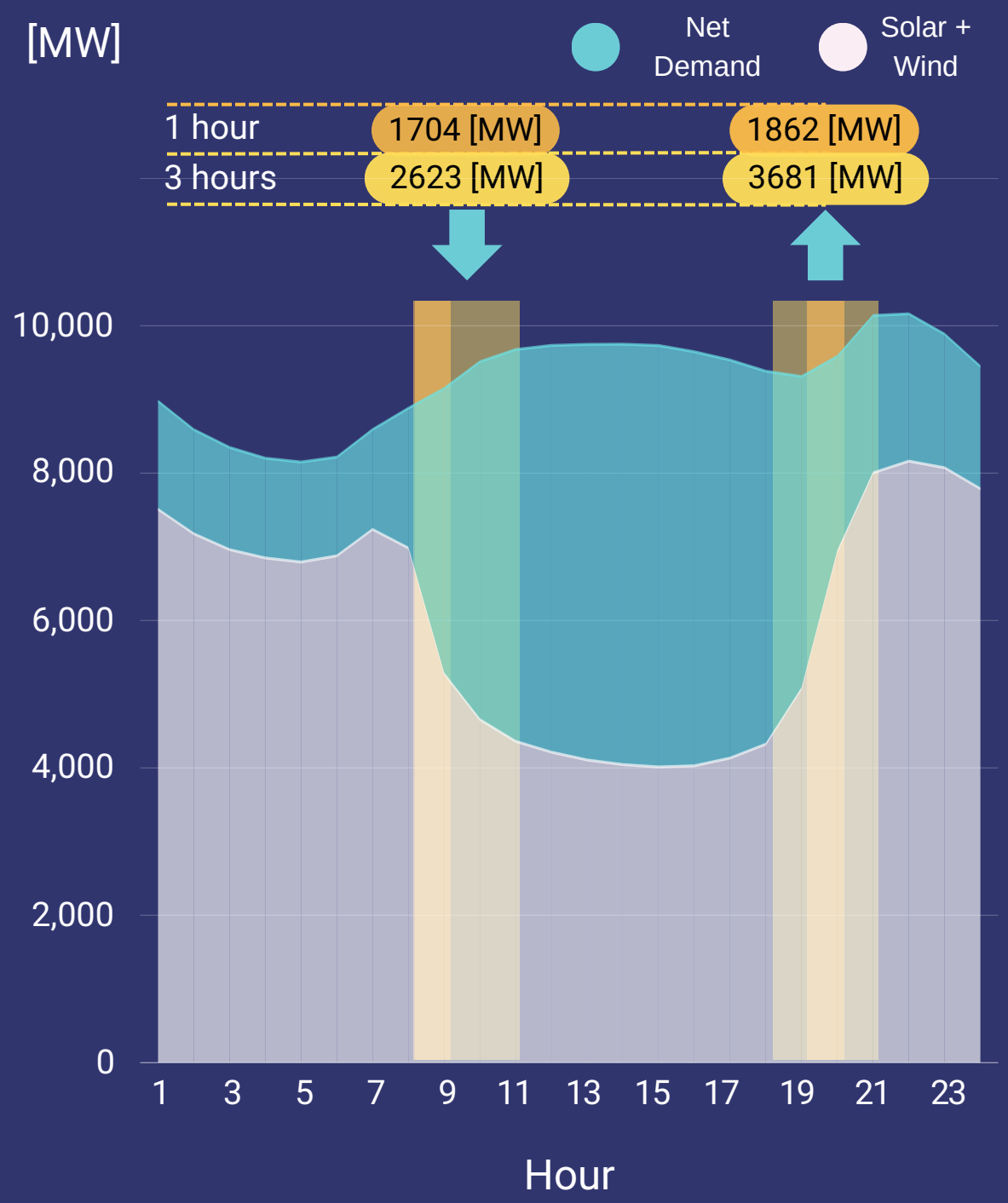
**Number of hours in October for each participation interval in solar + wind technologies**




*Block A considers from 00:00 to 7:59 hrs, Block B from 8:00 to 18:59 hrs, and Block C from 19:00 to 23:59 hrs.

**Authors:** Market Monitoring and Regulation Unit, Electric Markets Division.
**Ministry of Energy, Government of Chile**

## Net demand* on an average day in October




# The main hourly variations in net demand on an average day in October occur from 08:00 to 09:00 hrs, with 1704 [MW]; and from 19:00 to 20:00 hrs, with 1862 [MW].

When considering a 3-hour period, the steepest downward ramp on an average day in October is 2623 [MW] and occurs between 08:00 and 11:00 hrs, while the steepest upward ramp is 3681 [MW] and occurs between 18:00 and 21:00 hrs.

* Net demand: total system demand minus solar and wind generation.

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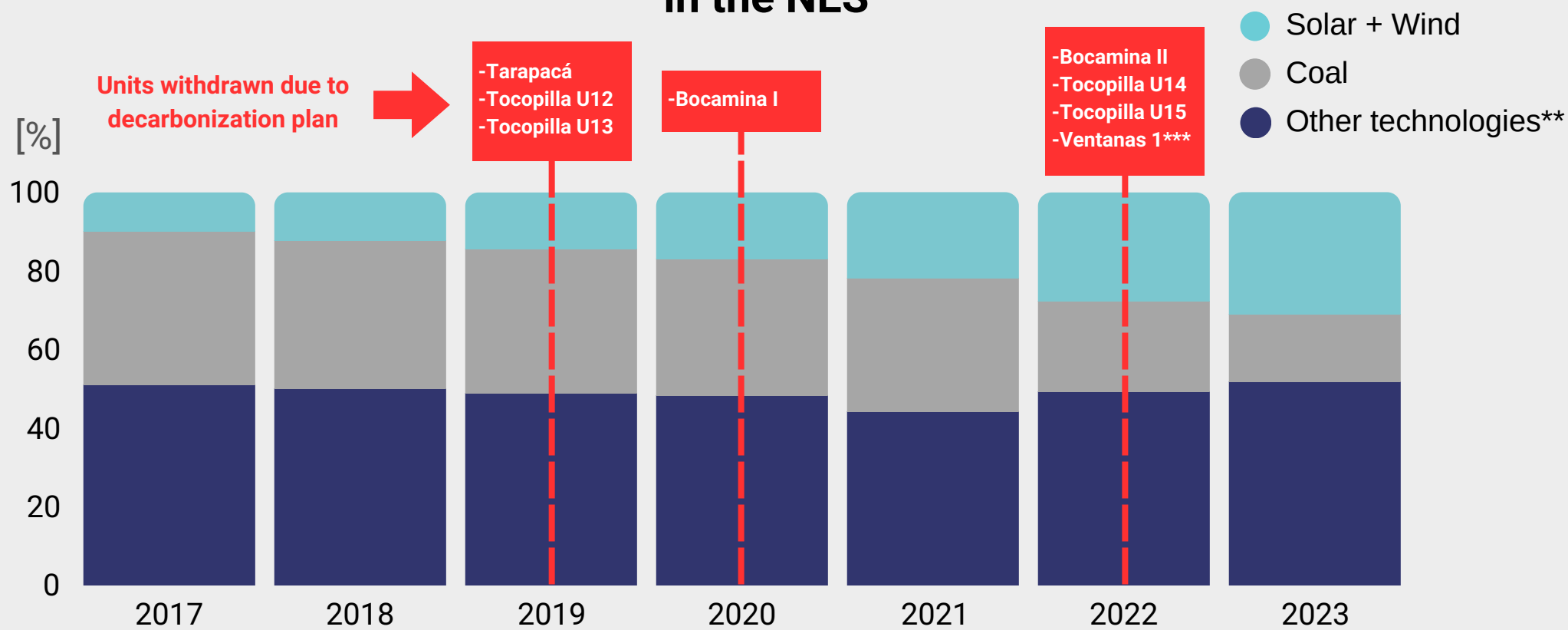
# Coal's participation of total National Electric System (NES) generation decreased from 39% in the year 2017 to 17% in 2023*.

The withdrawn of 8 coal-fired units as a result of the decarbonization plan, along with the sustained increase in solar + wind generation, whose participation increases from 10% in 2017 to 31% in 2023*, are some of the causes behind the displacement of coal-fired generation over the years.

## Annual evolution of coal and solar + wind participation in the NES




* 2023 considers from January to October.

** Run-of-river and reservoir hydropower, biogas, biomass, CSP, diesel, geothermal, LNG, PetCoke and Fuel-oil.

*** Ventanas 1 transitioned to Strategic Reserve State in 2020 and was permanently withdrawn in 2022.

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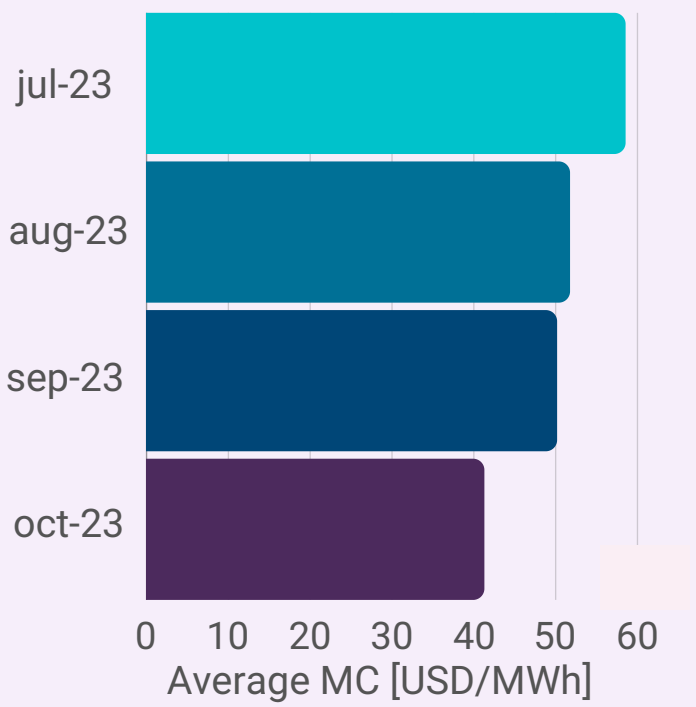
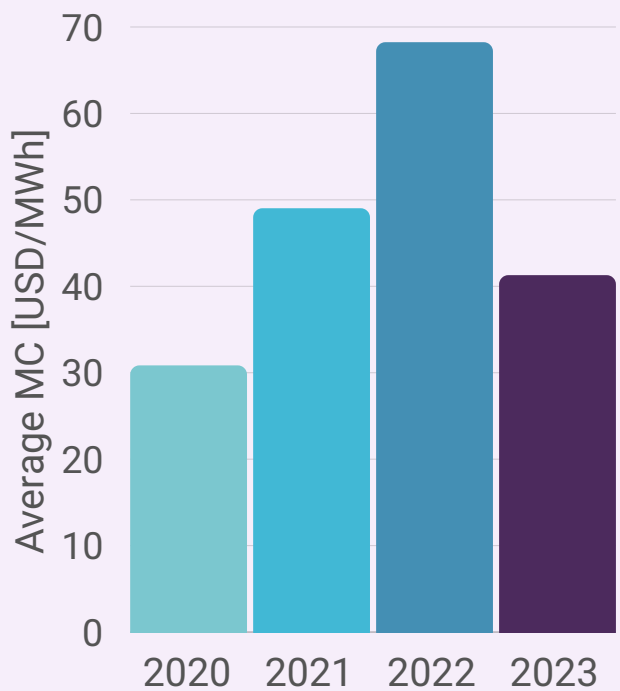
# Trends in Marginal Cost (MC) of the system

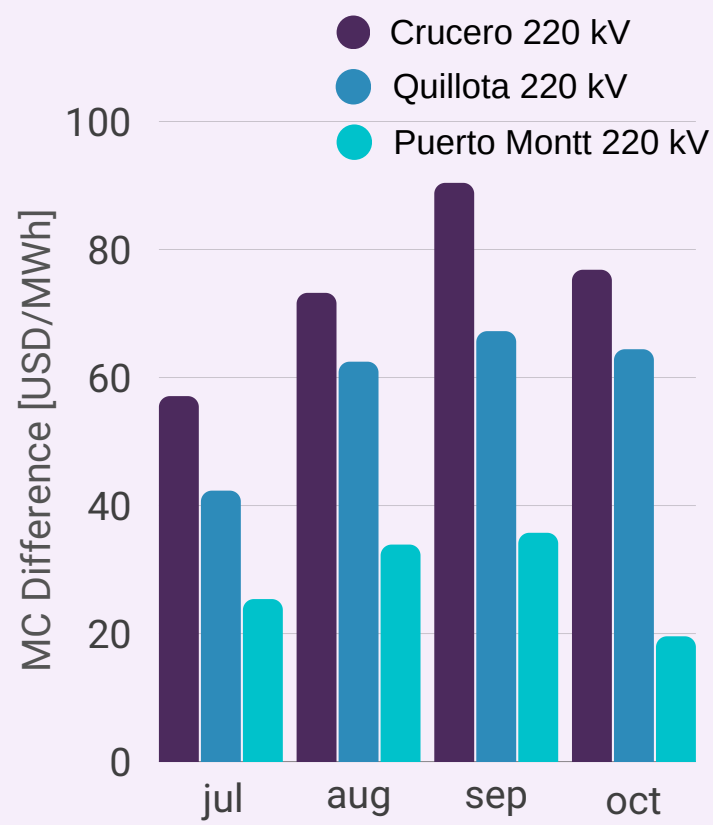
## Quillota 220 kV in recent months




## Quillota 220 kV in October of the last few years




## Difference* of MC in non-solar hours and in solar hours**




The average marginal cost in October 2023 for the Quillota 220 kV busbar was 41.3 [USD/MWh], lower than the observed value in September 2023 of 50.2 [USD/MWh] and also lower than the 68.2 [USD/MWh] of October 2022. Considering the NES reference busbars, the largest difference between the average marginal costs in non-solar and solar hours** during October was 76.8 [USD/MWh], on Crucero 220 kV busbar.

* Consider the difference between monthly averages of marginal costs in non-solar and solar hours.

** Solar hours" refer to the period between 8 a.m. and 6:59 p.m., while "non-solar hours" cover the remaining part of the day.

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